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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,224	02/13/2001	Hidetaka Osawa	50427-729	7988

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EXAMINER
GORDON, BRIAN R

ART UNIT	PAPER NUMBER
1743	10

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS10

Advisory Action	Application No.	Applicant(s)	
	09/781,224	OSAWA ET AL.	
	Examiner	Art Unit	
	Brian R. Gordon	1743	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 16 December 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2. ☐ The proposed amendment(s) will not be entered because:

   (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

   (b) ☐ they raise the issue of new matter (see Note below);

   (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

   (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____.

3. ☐ Applicant's reply has overcome the following rejection(s): _____.

4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5. ☒ The a)☐ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *See Continuation Sheet*.

6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7. ☒ For purposes of Appeal, the proposed amendment(s) a)☐ will not be entered or b)☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1-13*.

   Claim(s) withdrawn from consideration: _____.

8. ☐ The proposed drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10. ☒ Other: *See Continuation Sheet*

Continuation of 5. does NOT place the application in condition for allowance because: The 112 rejection as to the term "high" being relative is maintained. Applicant relies on the content of the disclosure that recites "control unit 20 generates the pulse signal of which pulse rat is relatively high to push the piston". As seen, applicant's disclosure recites that the pulse is relatively high. The term is relative for there is no standard given for one to determine what is a relatively high pulse rate. Does 10 pulses/sec indicate a high pulse rate? Does 30 pulses/min indicate a high pulse rate? There is no numerical value disclosed in the appication for the examiner to determine what applicant considers as high speed. As to the issue of claims 1 and 13 being essentially duplicate, the examiner hereby maintains that position for the "position changing means" and the "jetting means" both comprise the same components and are described in a manner as to operated in the same process and achieve the same function. Since the terms "position changing means" and "jetting means" were not specifally recited and defined in the specification it is unclear how the two means comprise the same components but are considered as different elements. Applicant is relying on the different functions of the combination of components to be considered as diffent means, however the same means is used to accomplish different functions (jetting a drop and moving the piston). It would be clear if the terms were specifically defined in the specification.

As to the arguments of claims 1-2, 6-8, and 13, and 43-51 of Pelc et al. it is recited that:

The microdispenser is capable of rapidly and accurately dispensing sub-nanoliter ("nl") sized droplets by forcibly ejecting the droplets from a small nozzle, this is known as `drop-on-demand`. Specifically, the dispenser of the present invention disperses drops in the range from about 5 picoliters to about 500 picoliters, preferably from about 100 picoliters to about 500 picoliters.

In column 6, lines 24-31, the positive displacement pump 12 includes stepper motor 28 and stepper motor 29 (another position changing means), and a syringe 30. The syringe 30 includes a borosilicate glass tube 32 and a plunger 34 which is mechanically coupled through a series of gears and a belt (not shown) to the stepper motor 28. Stepper motor 28 motion causes the plunger 34 to move up or down by a specified number of discrete steps (step of changing position a short distance) inside the glass tube 32. The plunger 34 forms a liquid-tight seal with the glass tube 32.

(column 6, lines 24-31) Digitally encoded commands cause the stepper motor 28 within the positive displacement pump 12 to aspirate discrete volumes of liquid into the microdispenser 16, wash the microdispenser 16 between liquid transfers, and to control the pressure in the system liquid 20 line for microvolume liquid handling system 10 operation. The positive displacement pump 12 is also used to prime the system 10 with system liquid 20 and to dispense higher volumes of liquid through the microdispenser 16.

The present invention avoids the problems of the contact process because the droplets 26 are expelled out of the microdispenser 16 at a velocity of several meters per second. The total desired volume is dispensed by the present invention by specifying the number of droplets 26 to be expelled. Because thousands of droplets 26 can be emitted per second from the microdispenser 16, the desired microvolume of transfer liquid 24 can rapidly be dispensed.

The change in system liquid 20 pressure is used to determine that the desired amount of transfer liquid 24 was dispensed. A second verification of the amount of transfer liquid 24 that was dispensed is made by the control logic 42. (col. 09, line 66 - col. 10, line 2; detecting and confirming means as of claims 5 and 10)

As to claim 12, it is inherent of any dispensing device that operates as conventionally well-known in the art by displacing a plunger/piston (as recited in Pelc et al.) that the volume and size of a droplet is dependent upon the pressure exerted on the piston as well as the diameter or size of the exit opening.

Continuation of 10. Other: Based on applicant's arguments the examiner withdraws the previous new matter objection to the specification and the 112, first paragraph, rejection of claims 1-13..

T. TUNG
PRIMARY PATENT EXAMINER
ART UNIT 1743